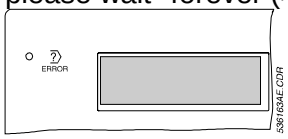
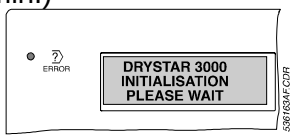
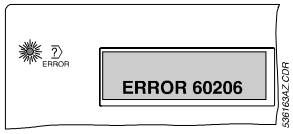
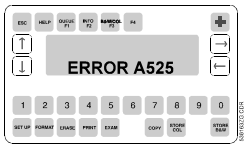
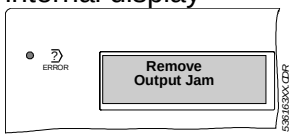
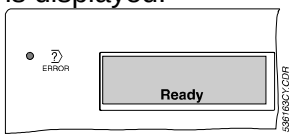
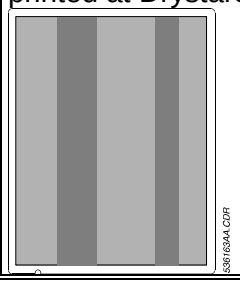
Section 6 - 3

List of contents

1 Troubleshooting: General 1
1.1 Symptom: Printer does not start up properly 2
1.2 Symptom: An error message is displayed on the internal or external display.. 3
1.3 Symptom: An error message as text is displayed on the internal display 4
1.3.1 Symptom: "Remove output jam" Film jam or film running askew in the decurl unit... 4
1.4 Symptom: Drystar 3000 does not print. No error message is displayed. 8
1.5 Symptoms: Image fault..... 10
1.6 Symptom: Hard disk doesn't work 20
1.7 Troubleshooting Ethernet failures..... 20
1.8 What to do if a bus error occurs ?..... 21
1.8.1 Bus crash caused by COS board 22
1.8.2 Spurious Interrupt 22
1.8.3 Illegal instruction 22
2 Software Installation / Configuration from Scratch..... 22
2.1 Software Installation from Scratch..... 22
2.2 Configuration from Scratch..... 22

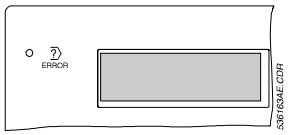
1 Troubleshooting: General

In case of troubles with the Drystar3000 we can distinguish between different symptoms. Enclosed a list of typical symptoms that may occur

#	Symptom Description	Reason	Refer to
1	Printer does not start up. Either nothing on the internal display or "Drystar 3000 initialisation, please wait" forever (> 5 min.)  	AOS shell not booted up completely	1.1
2	An error message is displayed on the internal or external display  	Problem during printer operation: Printer SW / HW problem.	1.2
3	An error message as text is displayed on the internal display 	Problem during printer operation: A user intervention is required.	1.3
4	Drystar 3000 does not print. No error message is displayed. 	Either the image does not get to the printer (network) or printer configuration mismatch	1.4
5	Image fault: Monitor at console and image printed at Drystar3000 are different 	Either problem of image processing (Software / Hardware) or problem of the host system	1.5

1.1 Symptom: Printer does not start up properly

Either nothing on the internal display or "Drystar 3000 initialisation, please wait" forever (> 5 min.)



Reason:
AOS shell not booted up completely

Cure:

- Start IMOS Drystar3000 (If you do not get access to the Drystar 3000, the hard disk may be defective. See section: **Symptom: Hard disk doesn't work**)
- Enter Menu „Application - Customization - Name/Value Edit"
- Look to the complete list:
- The list of different components stops somewhere before CMNXXX21 (see example)

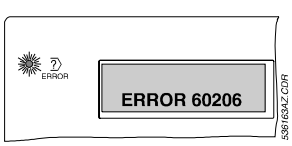
Normal Name/Value Edit list	Shortened Name/Value Edit List
ARTXXX00 0..23	ARTXXX00 0..23
SYSXXX00 0..0	SYSXXX00 0..0
MGAXXX00 0..0	MGAXXX00 0..0
MFSXXX00 0..0	MFSXXX00 0..0
RTTXXX00 0..0	RTTXXX00 0..0
ETSXXX00 0..0	ETSXXX00 0..0
NETXXX00 0..0	NETXXX00 0..0
MFXXXX00 0..0	MFXXXX00 0..0
CANXXX00 0..0	CANXXX00 0..0
BMDXXX00 0..0	BMDXXX00 0..0
ACQXXX04 0..0	ACQXXX04 0..0
TIFXXX04 0..0	TIFXXX04 0..0
MNUXXX04 0..64	MNUXXX04 0..64
ULDXXX04 0..0	ULDXXX04 0..0
ACQXXX01 0..0	ACQXXX01 0..0
MFRXXX01 0..0	MFRXXX01 0..0
MNUXXX01 0..64	MNUXXX01 0..64
LCDXXX01 0..0	
ACQXXX02 0..0	
TIFXXX02 0..0	
MNUXXX02 0..64	
LCDXXX02 0..0	
ACQXXX03 0..0	
CMNXXX11 0..0	
CPEXXX11 0..0	
ICDXXX11 0..0	
NIPXXX11 0..0	
DSPXXX11 0..0	
CPDXXX11 0..0	
ICIXXX11 0..0	
ALFXXX11 0..0	
DR3XXX11 0..0	
TIFXXX40 0..0	
CMNXXX21 0..0	
ETHXXX21 0..0	

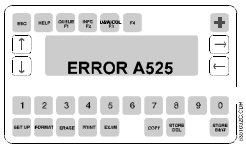
Driver before the last one in the NVE List points to the reason of the problem

- In the case of this example, the MFRI driver is the last one that booted up completely. Most likely the MFRI is not jumpered correctly or a configuration mismatch exists.
  General Proceeding in such a case: Check whether the VME hardware interfaces are really installed as shown in the configuration screen. Check jumpersetting of the VME interface.
  In case the problem is originated from SW problems during SW installation or configuration, a configuration from scratch is recommended (see chapter 2).

Note: If the NVE list stops with ARTXXX00, the reason is either, that the system is halted (make a reset in this case) or that a VME bus crash occurred. See also: „What to do if a bus crash occurs“.

1.2 Symptom: An error message is displayed on the internal or external display





Reason:
Problem during printer operation: Printer SW / HW problem.

Cure:

- Start IMOS Drystar3000
- Select „Repair“ - „Error Messages“ and enter the fault to get an explanation.

Note: Error messages are always created according to the "father-son" principle. I.e. there is always a basic error creating another one and so on.

How to see the current error messages:

- They are either displayed on the local keypad or the LCD user keypad. If errors are displayed as text, select menu 10 on the local keypad: Print Engine - Error Details* to get an error code.

  Additionally, the error messages are logged in the logbook:

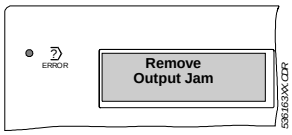
- Select "Logbook" in the main menu "Repair" in IMOS.
- Select „detailed“ to get the explanation of the errors, too.

  Attention: Always look to the error chain. If it ends with „0000“ the error was repaired internally.

How to get the explanation to error messages:

- Select „Error messages“ in the IMOS Drystar 3000 main menu „Repair“.

1.3 Symptom: An error message as text is displayed on the internal display



Reason:
Problem during printer operation: A user intervention is required.

Cure:

- First perform the action as required on the internal display (e.g. remove filmjam)
- Then select menu 10 on the local keypad „Print Engine“ - „Error Details“. Two errors will be displayed.*
- Start IMOS Drystar3000
- Select „Repair“ - „Error Messages“ and enter the two faults to get an explanation. Normally the first error message points to the problem.*
- In case the problem persists after resetting the device and the following filmrun, troubleshoot as described in the error explanation.

***only as of Drystar 3000 SW release 1.40 or higher.**

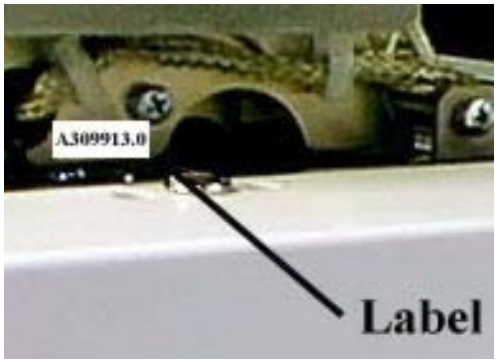
1.3.1 Symptom: "Remove output jam" Film jam or film running askew in the decurl unit

The causes an remedies described below refer to the decurl unit with part number CM+309911.1

The decurl unit CM+309913.0 has been introduced as a remedy in the series production.

Differences in the decurl units

Decurl unit:
CM+309911.1 (without label)
EB+53611161 (without label)



Decurl unit:
CM+309913.0 (with label)

Symptom: **Film runs askew through the decurl unit**

or

Display **"remove output jam"** in combination with the error message "**6C4E6 or 6C4BF**" (see local keypad, menu 10, print engine - error details)

Reason: **Loose screws or several screws missing on the decurl roller flange, (see figure 1)**

- Due to the missing screws the flange may shift and then the rollers are no longer parallel to the film transport level.
  This happens mainly in machines manufactured prior to October 1998.

Cure: **Check, if the screws are fully tightened and if they are complete**

The screws are visible after removal of the decurl heat protection cover and the corresponding decurl side panels.

- **If the screws have not been fully tightened:**
  - Tighten the screws:
    On the left-hand side of the decurl unit the wiring of the heater must be removed as well.
  - Replace the decurl unit at the next occasion.
- **If one or more screws are missing:**
  - Replace the decurl unit.

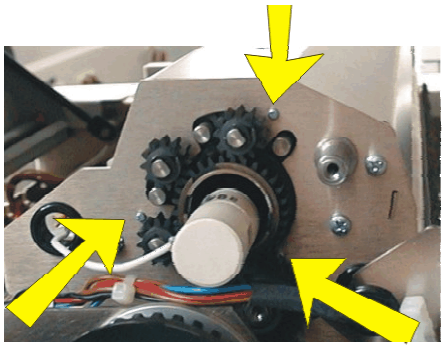


Figure 1a
left hand view

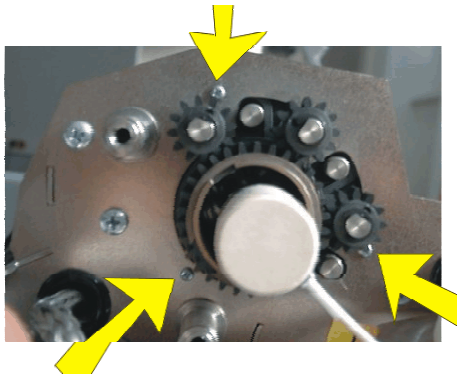


Figure 1b
right hand view

(The decurl side panels are removed in these views)

Symptom: **Film runs askew through the decurl unit**

or

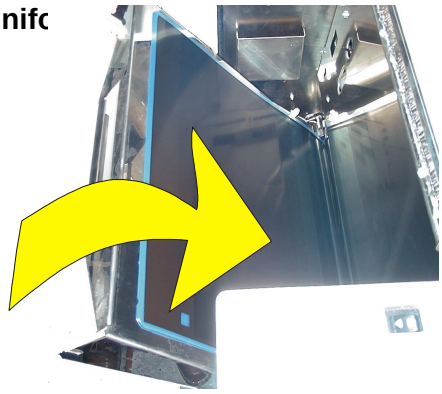
Display **"remove output jam"** in combination with the error message "**6C4E6 or 6C4BF**" (see local keypad, menu 10, print engine - error details)

Reason: **Transport roller shaft of the film take over no longer parallel.**

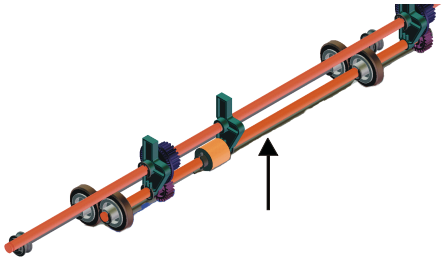
- If the shaft is not parallel, the film may enter the decurl unit at an angle or even fail to reach the decurl unit.
  This may be the result of e.g. to much force on the opened film take over unit.

Cure: **Check, if the film take over unit transports the film straight (parallel)**.

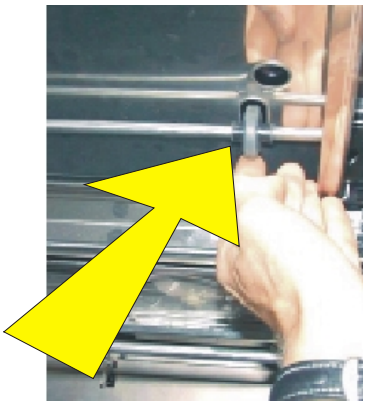
- **Roller pressure on the film must be unifc**



- insert a film in the film take over unit.
- Close the film take-over unit.
- Lift the shaft slightly on the drive side of the horizontal film aalignment.



- Check the pressure on the film on both rollers.



- **In case of pressure differences:**
  - align the shaft in parallel,
    or
  - replace the film take over unit.

Symptom: **Film runs askew through the decurl unit**

or

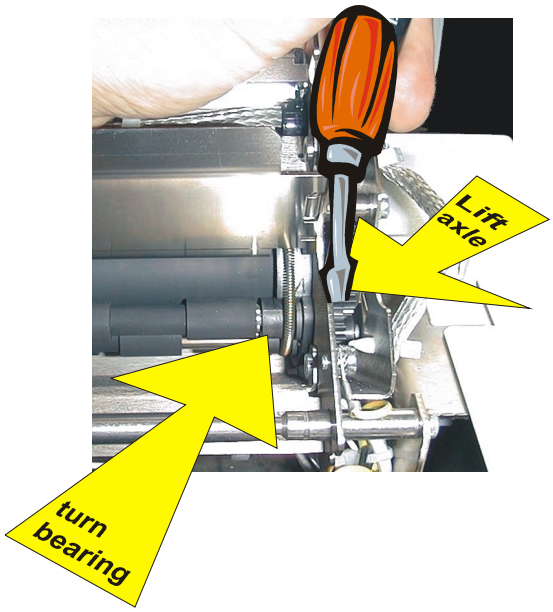
Display **"remove output jam"** in combination with the error message "**6C4C0**" (see local keypad, menu 10, print engine - error details)

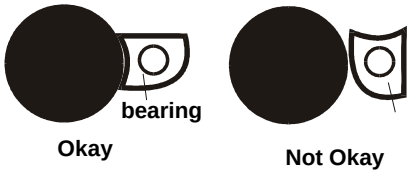
Reason: **Turning of one of the bearing blocks for the decurl rollers.**

- This may happen on either side, right or left, when a film has been pulled out of the decurl unit with undue force.
  The last decurl roller is then no longer parallel – the film runs askew.

Cure: **Correct positioning of the bearing block.**

- Lift the shaft by means of a screwdriver, as shown in Fig. (see arrow "lift axle"), and turn the bearing block back to its correct position, either manually or again with a screwdriver.



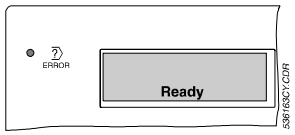


Or

- If this is not a permanent solution for the problem:
  replace the decurl unit by the reworked decurl unit which hs been introduced in the production line, (see page 4).

1.4 Symptom: Drystar 3000 does not print. No error message is displayed.

.



Reason:
Either the image does not get to the printer (network) or printer configuration mismatch

Cure:

- Start IMOS Drystar3000
- Enter Menu „Application - Customization - Name/Value Edit“
- Look to the drivers with extension „11“: The list of these components should look like displayed here

```
ARTXXX00 0..23
SYSXXX00 0..0
MGAXXX00 0..0
MFSXXX00 0..0
RTTXXX00 0..0
ETSXXX00 0..0
NETXXX00 0..0
MFXXXX00 0..0
CANXXX00 0..0
BMDXXX00 0..0
ACQXXX04 0..0
TIFXXX04 0..0
MNUXXX04 0..64
ULDXXX04 0..0
ACQXXX01 0..0
MFRXXX01 0..0
MNUXXX01 0..64
LCDXXX01 0..0
ACQXXX02 0..0
TIFXXX02 0..0
MNUXXX02 0..64
LCDXXX02 0..0
ACQXXX03 0..0
CMNXXX11 0..0
CPEXXX11 0..0
ICDXXX11 0..0
NIPXXX11 0..0
DSPXXX11 0..0
CPDXXX11 0..0
ICIXXX11 0..0
ALFXXX11 0..0
DR3XXX11 0..0
TIFXXX40 0..0
CMNXXX21 0..0
ETHXXX21 0..0
```

Drivers for the print engine

- In case it does not look like that, reconfigure the output of the printer as Drystar 3000. Select „force pin“ in the configuration screen.
- In case the drivers for the print engine are okay, have a closer look to the drivers for networking: Note: In the example enclosed only the driver for APIP is loaded. In case the Drystar 3000 is connected to a host modality via DICOM, lp, pap or ftp, different drivers may be loaded.

Note: In the example below only the driver for APIP has been loaded. If the Drystar 3000 is connected to a host modality via DICOM, lp, pap or ftp, various drivers may be loaded.

Network Protocol	Drivers
APIP	CMNXXX21 ETHXXX21
DICOM	CMNXXX22 (or higher) PMSXXX22 (or higher)
FTP	CMNXXX?? (?? > 21)
LP	CMNXXX?? (?? > 21)
PAP	CMNXXX?? (?? > 21) PAPXXX?? (?? > 21)

For further information see section „Troubleshooting Ethernet failures“

```
ARTXXX00 0..23
SYSXXX00 0..0
MGAXXX00 0..0
MFSXXX00 0..0
RTTXXX00 0..0
ETSXXX00 0..0
NETXXX00 0..0
MFXXXX00 0..0
CANXXX00 0..0
BMDXXX00 0..0
ACQXXX04 0..0
TIFXXX04 0..0
MNUXXX04 0..64
ULDXXX04 0..0
ACQXXX01 0..0
MFRXXX01 0..0
MNUXXX01 0..64
LCDXXX01 0..0
ACQXXX02 0..0
TIFXXX02 0..0
MNUXXX02 0..64
LCDXXX02 0..0
ACQXXX03 0..0
CMNXXX11 0..0
CPEXXX11 0..0
ICDXXX11 0..0
NIPXXX11 0..0
DSPXXX11 0..0
CPDXXX11 0..0
ICIXXX11 0..0
ALFXXX11 0..0
DR3XXX11 0..0
TIFXXX40 0..0
CMNXXX21 0..0
ETHXXX21 0..0
```

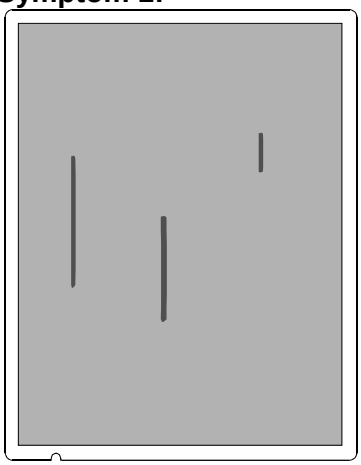
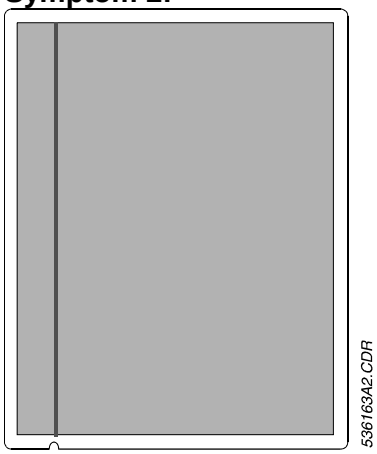
Drivers for networking. Here: APIP

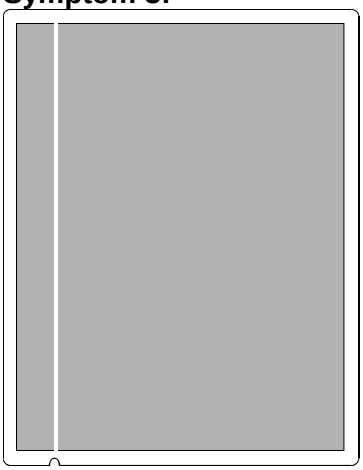
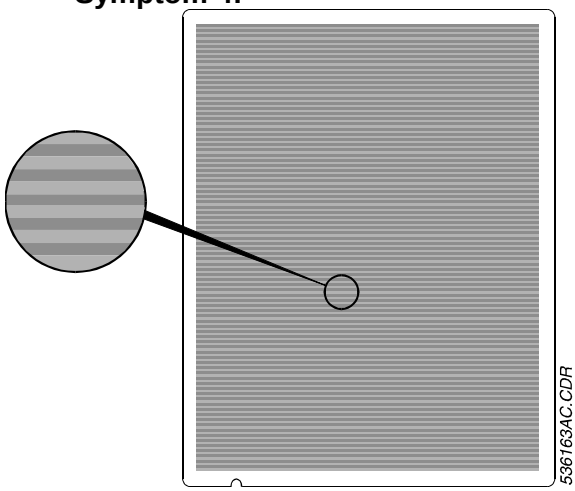
- In case the driver is not installed, use the proper network configurator to reconfigure the network connection. See section 5 for more information.

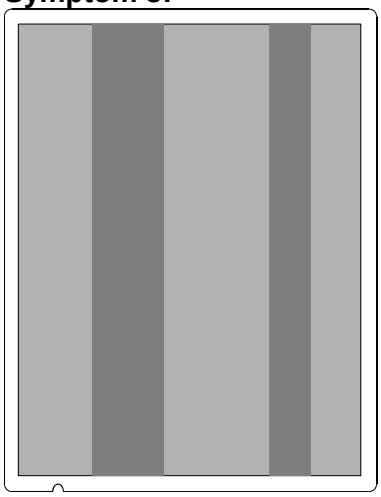
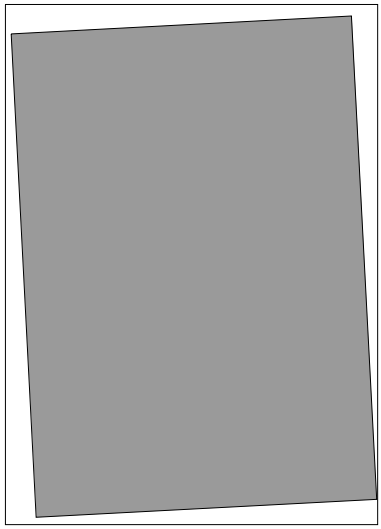
1.5 Symptoms: Image fault

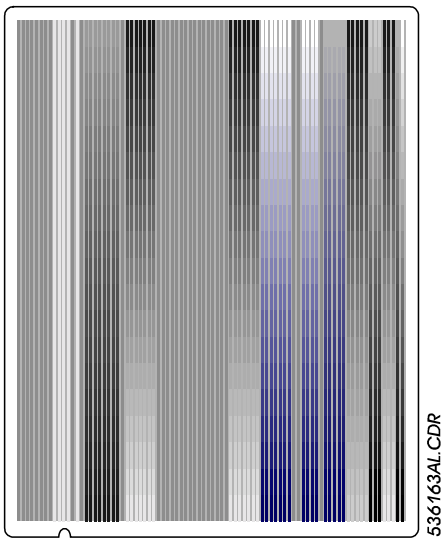
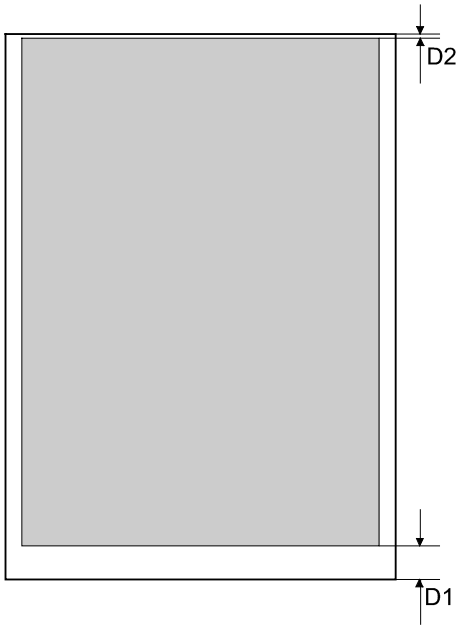
Cause: Either problem of image processing (software/hardware) or a problem of the host system.

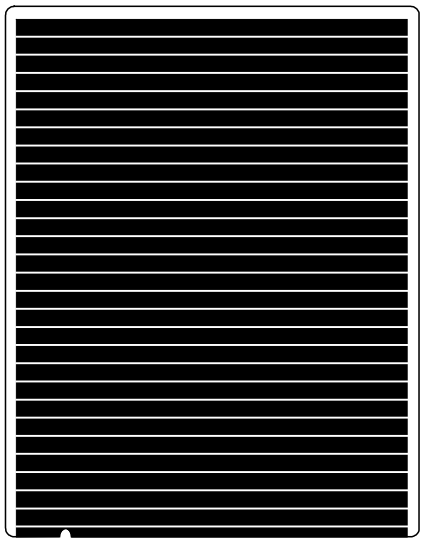
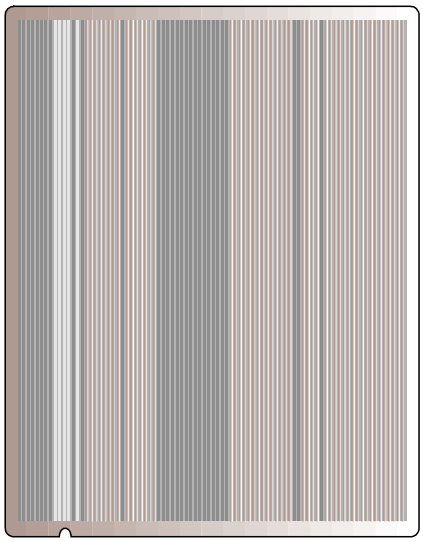
The listing below shows possible error symptoms:

Symptom 1:  Vertical, blurred, dark lines	**Symptom 2:**  Vertical, sharp, dark line(s)
Reason: Dust. Dust is the main enemy of the Drystar 3000	**Reason:** Resistor of TH going to be defective.
Cure: Normally okay after next film, otherwise clean TH (ref. to Sec.12). Leave TH compartment closed. Leave film loading assembly closed.	**Cure:** Exchange TH (ref. to Sec 6.5).

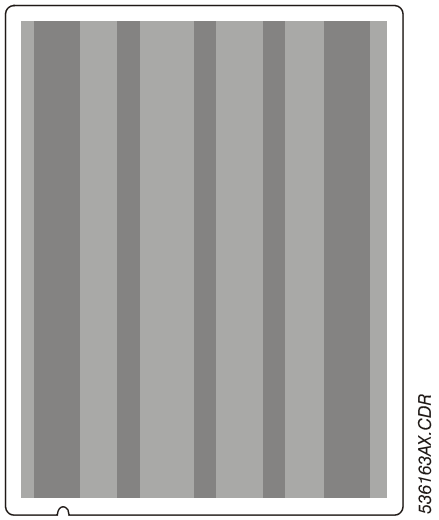
Symptom 3:	**Symptom 4:**
 Vertical, sharp, white line, <1mm	 Horizontal lines (*at right angle to the film transport direction, spacing 3-4 mm)*.
Reason: Defective resistor of the thermal print head.Might also be some dust.	**Reason:** Irregularities in the film transport system (mechanical problem). - Flat belt - Toothed belt - Thermal head drum - Drum motor
Cure: Clean TH (see Sec. 12). If image quality does not improve, exchange TH (ref. to Sec. 6.5).	**Cure:** **-** Check the drum motor, if necessary, install the improved drum motor (CM+3097781). **-** Check the drum, belts (belt tension) and belt pulleys (bearings).

Symptom 5:  536163AA.CDR **Thermal print head - banding:** (a) Stripes narrow (few mm) to wide (some cm) become visible in a grey field *in film transport direction* (flat3001.bla or flat3002.bla) (b) Slight scratches on the emulsion side	**Symptom 6:**  The image information is not in parallel with the film edges
Reason: (a) Dirt on the thermal print head. (b) Thermal print head compensation drift	**Reason:** - Vertical alignment incorrect: The stops in the film feed station are not on the same level.
Cure: (a) Clean the thermal print head with a hard eraser (for ink, e.g. Pelikan BE20, order no. 1BE20 602169, also refer to the FSB 025.98E). (b) Perform a print head macro-compensation.	**Cure:** Adjust a vertical alignment (ref. to Sec. 6.6).

Symptom 7:	**Symptom 8:**
 **Stripes appearing on the film** Irregular, light stripes of different densities visible *in film transport direction*.	 The upper and the lower edge of the image information do not have the same distance to the film edge (D1 and D2). The vertical adjustment of the image is not correct.
Reason: - After replacing or dismounting the TH, the pressure of the film against the thermal print head may be uneven. - Due to age related slackening of the spring force, the pressure of the film against the thermal print head is uneven.	**Reason:** - Vertical alignment out of adjustment: The stops in the film feed station are too high or too low.
Cure: Adjust the pressure of the film against the thermal head again and use the adjustment kit with the order no. EB+53611750 TOOLKIT TO ADJUST TH PRESSURE for this purpose. The toolkit comes with application instructions.	**Cure:** Adjust the vertical alignment (ref. to Sec. 6.6). Example: If the upper border is smaller than the lower border, the stops are too far up.

Symptom 9:	**Symptom 10:**
 536163AM.CDR **Stripes appearing on the film** Regular stripes in *horizontal* direction at a distance of approx. 15 mm across the whole film.	 536163BL.CDR **Stripes or scratches appearing on the film** The film is scratched on the emulsion side. The scratches look like a ribbon running across the whole film from top to bottom. When the scratches get worse, the density in the scratched areas decreases. It then looks like the well-known "TH banding“. This type of dirt on the TH cannot be detected with the bare eyes.
Reason: - Encoder of the drum speed detection defective. - Contact problems with the cable to the encoder of the drum speed detection.	**Reason:** - Dirt on the thermal print head.
Cure: • Replace the encoder of the drum speed detection (ref. to Sec. 6.5).	**Cure:** • Clean the thermal print head with a hard eraser (for ink, e.g. Pelikan BE20, order no. 1BE20 602169, also refer to the FSB 025.98E).

Symptom 11:



Wide, dark, regular vertical stripes. The stripes correspond to the shape of the decurl rollers. This probably also affects the thermal head area, (see verification on the following page).

Note: The example, shown here, is the print of a "flatfield" test. In the clinical image the stripes are superimposed to the image information. The stripes must not necessarily be symmetric. Probably they are only visible on one side.

Reason:

1. Most likely dirt on the infrared sensor

Through the dirt the temperature sensor measures a lower temperature which then results in a higher decurl temperature.

Contamination due to light particles which are shed by the film.
If this is the case, white dust may be found in the area of the decurl unit and the thermal head.

2. Other possible causes**:**

- IR sensor defective

or

- PMC1 Board defective

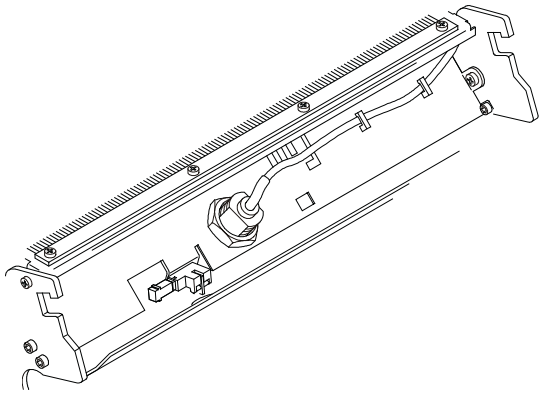
To verify the symptom proceed as follows:

- Start IMOS
- Print testfilm „flat3001.bla“ and „flat3002.bla“ (IMOS: Repair – Print Engine – Print Testpage)
- Print Testfilm „artifac2.bla“
- Put the film „artifac2.bla“ on this flatfield film, where the image fault is best visible.
- Put them on the lightbox.
- In case the problem is really originated by the decurl-rollers, you will see the fault-pattern on the displayed decurl rollers on the„artifac2.bla“ film.

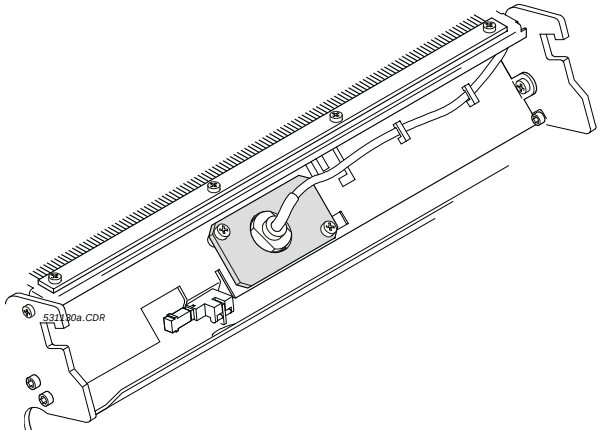
Cure:

1) Clean the IR sensor / replace the decurl unit

- in all machines manufactured up to mid-October 98, (see Fig.), the decurl unit must be replaced since the IR sensor is hardly accessible.



- In machines with a separately mounted IR sensor (see Fig.) remove the IR sensor and clean it. Do **not** open the adjusting nut. These must only be loosened for replacement of the temperature sensor. **Please make sure to consider the hints on the decurl unit**



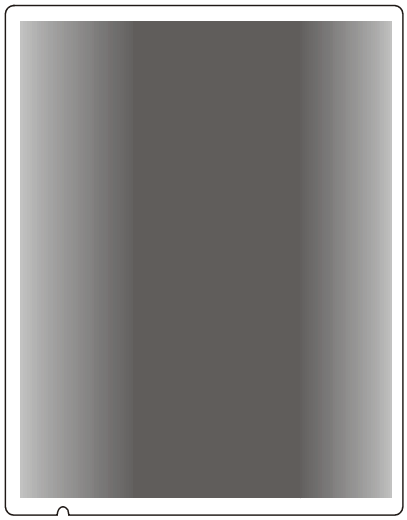
2) Replace the IR sensor

3) Replace the PMC1 Board

For removal instructions, see section 6.5 of the Drystar 3000 documentation.

When removing the decurl unit, please consider the following points:

- If there are any light particles / dust in the machine, remove them with a vacuum cleaner.
- Never use compressed air to remove them since this would distribute the particles all over the machine and its surroundings.

<table>
<tr>
<td>Symptom 12:
 
536163CX.CDR

Uneven density at the right and left hand side of the image. Density is too low compared to the middle part of the image. Best visible on a flatfield.</td>
<td>Symptom 13:

536163DX.CDR

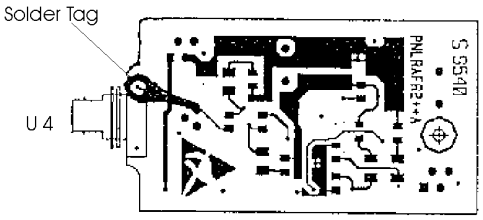
Moiré pattern: Dots or lines, appearing in regular distance over the whole film. Sporadic (intermittent contact) or most often persistant. Appearance depends on frequency of the video signal (i.e. may differ from one to another installation).</td>
</tr>
<tr>
<td>Reason:

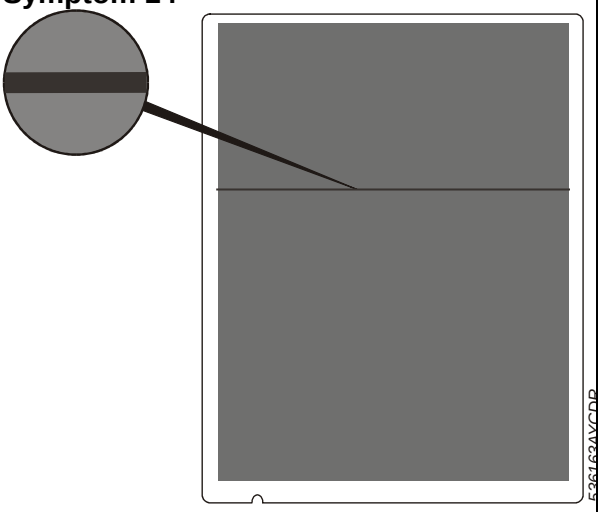
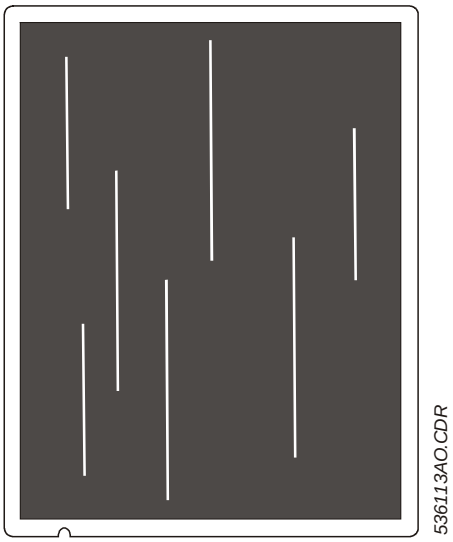
- Heat conducting material of thermal head not homogeneous anymore (should only happen for devices with SN<1895).

- TH pressure adjustment not correct anymore (see section 6.6, adjustments).</td>
<td>Reason:

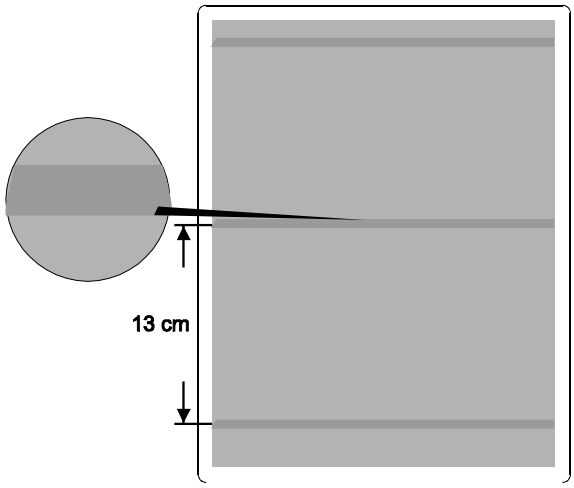
- Interrupted ground connection between the AFR2 Board rev. A and the housing</td>
</tr>
<tr>
<td>Cure:
• Check TH pressure (see section 6.6, adjustments).
• Replace thermal head. New thermal heads use a new, pink heat conducting material.</td>
<td>Cure:

• Possibility 1: Provide the missing ground connection between PCB and housing by soldering a solder tag. These solder tags are available in packages of 100 including the instructions (EB+44022720).
• Possibility 2: Installation of the AFR2 Board, Rev C, available as spare part. (EB+44022622).

 
</td>
</tr>
</table>

Symptom 14  One (or more) thin horizontal dark line in the image. Initially sporadic, later on it might even be in every image. Eventually a bright line is visible above the dark one.	**Symptom 15:**  **Vertical bright lines** Thin vertical bright lines across the complete film.
Reason: - Most likely rust on the shaft assembly bushing. As this bushing is one of 3 supports of the TH in print position, it is possible, that a non-defined support position can lead to small slipping down of the TH during printing.	**Reason:** - **1)** Software problem on the COS Board revision E. Note: The problem should not occur in machines with SN < 2177 (+ SN 2171; 2172; 2173 in addition). In these machines the COS Board rev. F is already installed. - **2)** Hardware problem on the AIC1 Board
Cure: Dismount the shaft assembly and grease the bushing (for instrcutions see section 13, DD+DIS013.99M). Note 1: In all devices with SN > 1916 (+ additional SN1911) the bushing is greased already. Note 2: This greasing has to be done only once in a lifetime.	**Cure:** • **1)** Installation of the Software Version ≥ 1.73. During the software installation there is an automatic update of the firmware of the COS Board to rev. F. • Installation of the COS Board rev. F (EB+53610593) • **2)** Replacement of the AIC1 by a AIC1 Board, Rev. F (EB+53611092). The THP1 Board previously mounted on the modified data cables is now integrated on AIC1 Board, rev. F and is thus no longer necessary.

Symptom 16:



Horizontal bright lines

Horizontal lines (banding).

Reason:

- If the printer is out of operation for a longer time period, the flat belt of the main drive may suffer permanent pressure marks due to the belt tension.

  These pressure marks on the flat belt result in irregularities of the film transport system, and thus also in image artifacts (horizontal lines at a spacing of approx. 13 cm)

Cure:

Measures for the production:

- At the production line, the flat belt is detached again after the printer has been calibrated and the belt tension has been mounted at the belt pulley.
- The flat belt must be mounted again for the first operation of the machine.

Measures for already installed machines:

- Replacing the flat belt

For removal and mounting of the flat belt refer to your documentation section 6.5

Adjustment of the belt tension and belt positioning of the main drive see documentation section 6.6.

1.6 Symptom: Hard disk doesn't work

Hard disk doesn't work	end of boot message: (boot message see 3.5) ==> Wait until disk HD0 is ready 1 (Can not select [11]) ** Error, Drive C: not ready mon>
	Blinking keypad cursor
	Red CPU LED lights up

Reason:

- Wrong SCSI address coding (only for new installed hard disk!).
- Bad contacts of cable connector.
- Eventually missing power supply for hard disk or defective hard disk.

Cure:

- Type "dos" on monitor level (Drystar_C:\mon <enter>; Mon>DOS <enter>) to be able to execute dos commands on monitor level. The command "dir" should in any case give you the contents of the hard disk if the connection can be achieved.
  Type "he" to get more information on the "mondos" tool. Type "quit" to leave the mondos level.
- If command "dir" doesn`t work check cable connection to the hard disk and power supply.
- Replace hard disk or CPU if necessary

1.7 Troubleshooting Ethernet failures

Symptom: **No printing via Ethernet**
In spite of configuration for network connection no printing via Ethernet is possible.

Reason:
HARDWARE

- Cabling (not RG-58; short circuit; not connected, not terminated by 50 Ohm terminator)
- BER board
- MAU (see green LED = power. Off means BEN or MAU. problem)
- Drop cable, internal Drystar 3000 Ethernet cable.

SOFTWARE

- Ethernet not configured
- Problem in ART table (mismatch of small/capital letters; typing error)
- mismatch of apip_dest_names.
- Not enough diskspace for the network user 4 (or 5 to 9) in the printer where you want to print the image.

Tools for troubleshooting:

TROUBLESHOOTING HARDWARE

Make a reset of the printer. Start "rem" (logbook) on terminal level. Type "go" and have a look to the first page of information. You should get something like:

TNX ethernet address 00-66-00-27-6f-00 (=BEN ethernet adddress)
TNX selftest MAC okay (=one function of BEN SONIC chip)
TNX selftest ENDEC okay (=encoder/decoder function of SONIC chip)
TNX selftest cable okay (=check of fuse and cable)

TROUBLESHOOTING SOFTWARE

- look to the whole customization list: type NVE at the AOS shell prompt. You have to get ETHXXX21 driver at the end. Otherwise it seems that Ethernet is disabled.
- type "adv" to get the whole list of all Ethernet nodes in your network ("adv" means "advertise").

Comment: "adv" is much better than using "ping", because you do not have to know the other nodes addresses or names. It' s advised to use „ping“ (e.g. ping 192..9.200.101) for connections to non-AGFA printers (Workstations !)

1.8 What to do if a bus error occurs ?

- Start IMOS Drystar 3000. No connection will be established. Select "Terminal" Possible message: "RC" or "mon"*
- Perform a reset on the VME CPU or type "res"
- Stop the system boot up before the application SW will be started: Press ENTER key as soon as the "AOS started" message appears.
- Remove all VME interfaces except the CPU
- Perform a reset: Now the system should boot up without bus crash. If a bus crash occurs now, remove the NIP and BER board, too.
- Insert one interface after another. Make a reset in between. Like that the faulty interface can be detected.

*In case a bus crash register dump is displayed, the following list will help to troubleshoot:

By looking on the "fault address" you can verify in the listing below the "fault" address

Address - Range	Device
00000000 - 07FFFFFF	Memory module
10000000 - 17FFFFFF	Memory module
17800000 - 17FFFFFF	LUT NIP
D0000000 - D7FFFFFF	NIP
E0000000 - E00FFFFF	VSI
EA000000 - EA1FFFFF	COS board
EA200000 - EB000000	AIC board
EF004000 - EF004800	AIC board
F2000000 - F2FFFFFF	BER board
F7FD0000 - F7FDFFFF	CPU board
F7FE8001 - F7FE82FF	CPU baord
F7FE8300 - F7FE83FF	BER

Address - Range	Device
F7FE8400 - F7FE87FF	CPU board
F7FE8800 - F7FE880F	BER
F7FE8880 - F7FE888F	BER
F7FE8900 - F7FE89FF	CPU board
F7FE8A00 - F7FE8AFF	BER
F7FE8B00 - F7FE8B1F	NIP
F7FE8C00 - F7FE8EFF	CPU board
F7FE8F00 - F7 FE8F0F	BER
F7FE8F20 - F7FE8F2F	BER
F7000000 - FFEFFFFF	CPU board

Remark: When an addressing failure occurs, this might have other causes than a malfunctioning board on the corresonding address. E g. a - malfunctioning - board that responds to an addressing cycle of another board.

1.8.1 Bus crash caused by COS board

COS boards < rev. E in a few rare circumstances (e.g. at very low temperature) can cause a sporadic buscrash. The printer will automatically reset as long as the buscrash exists. A logfile (IMOS Drystar 3000 → TOOLS → terminal; "log to file") will show
`BUS ERROR at addr ea000000` (or from EA000000 to EA1FFFFF respectively).
It is recommended to install SW release 1.6 or higher in this case. Software rel. 1.6 contains a software upgrade for the COS board. In case the problem is not solved with this measure, replace the COS1 board to a board with rev. E or higher.

1.8.2 Spurious Interrupt

The reason is mostly a hardware problem, so check the jumpers on all boards and if necessary replace the VME board.

1.8.3 Illegal instruction

Mostly a software problem. Make a new installation of the complete software, check the VME boards or replace them.

2 Software Installation / Configuration from Scratch

In case of troubles during installation or repair, it is sometimes advised to reconfigure the device or even to install the software from scratch.
Enclosed a brief instruction:

2.1 Software Installation from Scratch

Tools needed: Laptop; IMOS Drystar 3000; Device SW (e.g. rel 1.32)

Proceeding:

- Start IMOS Drystar 3000
- Make a backup
- Select INSTALL SW: Reinstall System (see HELP IMOS Drystar 3000 for more information)
- Insert the floppies as requested
- Make a restore of the TH data only
- Make a new configuration (see next topic)

2.2 Configuration from Scratch

Tools needed: Laptop, IMOS Megacon; eventually IMOS DICOM and / or MPS

Proceeding:

- Be sure, that all .a00, .c00 and .u00 on the C: and D: partition are removed.
- Start IMOS Megacon
- Select for input / output / network the required modules. Choose "force pin" at the different inputs/outputs.
- Eventually afterwards make a selective restore of the LCD and MNU .U00 parameters. Alternatively make a new customisation of the printer, if required.